

Surgery of the third ventricle, second edition

Ed: Apuzzo MLJ

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The third ventricle lies in the centre of the ventricular system, communicating with the lateral ventricles through the foramen of Monro, and with the fourth ventricle via the aqueduct of Sylvius. It is also in the focal point of the brain, and is surrounded by various anatomically and functionally important structures. Operations on the third ventricle are always most challenging for the neurosurgeon. Without a good understanding of its anatomy, pathology, imaging, and different approaches to this deep structure, operation in and around this area can result in catastrophe.

Surgery of the Third Ventricle has always been the reference book for the pathology of this region. The revised edition of this modern classic is a must for the contemporary neurosurgeon. It is not only an encyclopaedia of this special region of the brain, but also an extremely useful reference book in the operating theatre. Ten years since its original publication, there has been a tremendous emergence of new concepts and surgical advancements in the field of neurosurgery which have been triggered by an explosion of technology. In the light of such rapid advancements, the new edition contains additions to the original text which are contemporary in scope and which increase the comprehensiveness and value of the volume. The original 38 chapters have been expanded to 52, with extensive treatment of topics related to traditional neurovascular microsurgery and endovascular therapies that are related to lesions of the region.

The text brings together a number of authors who are all considered experts in their fields. The first section reviews the history of surgery within the ventricle. Accompanied with many precious, historical operative sketches by Walton Dandy, the chapter helps the reader to understand the agony and difficulty encountered by the early pioneers in search of an operative corridor.

The second section focuses on anatomy, as well as the pathophysiological and radiological findings associated with the third ventricle. The anatomy of the third ventricle is covered from both functional and microsurgical points of view. It begins with a chapter on comparative anatomy. This permits a longitudinal study of the developing human central nervous system

by embryological studies and views many congenital, metabolic, and degenerative disorders through the perspective of evolution. It is particularly useful for the researcher who performs investigations of the central nervous system using animal models. The next chapter has been contributed by Dr A Rhoton Jr with his typical thoroughness. He has depicted the microsurgical anatomy of the third ventricle to the finest detail using numerous original drawings to help the reader to understand the complexity of the structural relationships and the vascular supply. The only regret is that the illustrations are not printed in colour, as were the original drawings. The discussion of functional neuroanatomy in this section is comprehensive enough to be used by anyone studying for examinations or research. The in-depth coverage on physiological consequences of complete or partial commissural section, pathological correlation of amnesia, anatomical basis of memory, and physiology of consciousness is most up-to-date.

The next chapter, dealing with the radiological findings associated with third ventricle diseases, uses representative radiographs and artist's illustrations to give the reader an overview of the various pathological entities and their radiographic appearance, particularly as seen on magnetic resonance imaging. This is followed by a review of the pathological findings in neoplasms. The chapters are for the most part well written and easy to read; they are also supplemented by excellent drawings and photographs. As in any multi-authored text of this scope, there is some redundancy in the issues covered, but the overlap also makes each chapter more self-sufficient and hence more useful as a reference source.

Virtually all the contributors to the third section, which covers surgical approaches, are based at highly reputable university centres where they have amassed a great deal of clinical experience in treating complex disorders. This section covers all surgical options in the treatment of third ventricle lesions. Using illustrations and a step-by-step format, each chapter takes the reader through the surgical techniques in detail. Each contributing author describes their favoured surgical approaches for treating specific pathological entities, thus allowing the reader to draw on the varied experience of a number of expert neurosurgeons.

Among the most outstanding chapters in the third section are those covering surgical approaches for the anterior and mid-third ventricular lesions. The authors review structural presentations of the diverse pathological spectrum of diseases affecting the ventricle, as well as the advantages and risks of available operative corridors, in an effort to develop guidelines for strategies in the management of these lesions. Another excellent chapter addresses the more difficult occipital transtentorial approach for tumours in the region of the pineal gland. Each chapter in the section stresses the importance of organising the team of experts and medical personnel who are dedicated to the treatment of complex ventricular lesions.

The fourth section presents special techniques and methods. It is an important section because it embraces the most recent advanced techniques in stereotaxy, computer-assisted surgery, endoscopy, and endovascular therapies for the treatment of third ventricular lesions. The last two chapters enrich the section by adding critical reviews of the roles of radiosurgery and chemotherapy as primary or adjuvant treatment for some specific lesions.

The final section, entitled 'special problems' exhaustively reviews the less common lesions that affect the third ventricle region. The surgical treatments for aneurysms, cavernomas, and arteriovenous malformations are not to be missed. Detailed and expansive chapters

that deal with all aspects of the colloid cyst and cranio-pharyngioma are added to this new edition. New perspectives on the clinical management of pineal region masses have been developed to assist with the multifactorial logical treatment of these complex lesions. In addition, pineal physiology and the topic of germ-cell tumours in the paediatric age group have been afforded in great detail. As with all the chapters in this book, case examples are in their abundance with well-illustrated radiological figures.

In summary, this single authoritative volume brings together the latest perspectives on anatomy, pathology, imaging, and surgery of all disorders in and around the third ventricle. In *Surgery of the Third Ventricle*, which is complementary to the author's 1993 publication *Brain Surgery Complication Avoidance and Management*, Dr Apuzzo has managed to relate information that should be of use to both neurosurgical trainees and senior staff; as such, this book belongs in every hospital library.

Dr JCK Kwok
Chief of Service
Consultant Neurosurgeon
Department of Neurosurgery
Kwong Wah Hospital
25 Waterloo Road
Kowloon
Hong Kong

Antiviral therapy

By: Blair E, Darby G, Gough G, et al.

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The development of antiviral drugs has rapidly evolved from utter scepticism in the 1970s to the celebrated success of acyclovir for the treatment of herpes simplex virus infection in the 1980s and the ever-increasing importance of treatment for human immunodeficiency virus (HIV) infection in the 1990s. While great progress has been made in the development of antibiotics in the treatment of bacterial infection, there is only a limited number of antiviral drugs that can be used clinically. The intrinsic property of viruses as obligate intracellular parasites has been a major stumbling block in developing antiviral drugs because chemicals that inhibit viral replication also inhibit cellular functions, which leads to drug toxicity. New achievements in biotechnology, however, have allowed rapid diagnosis of viral diseases and revealed insights into the complex mechanisms of viral

pathogenesis—these achievements have contributed greatly to the rapid development of antiviral drugs. The field of antiviral research has finally come of age with new technologies for drug design, progressive approaches to drug combinations, and advances in drug delivery methods. The expanding list of emerging or re-emerging viral infections that require treatment has invoked significant attention to the development of effective antiviral treatments over the years. In addition, resistance to antiviral drugs is becoming a serious problem, especially in the treatment of chronic diseases such as HIV and hepatitis B.

Antiviral Therapy, written by a team of experts from both industry and academia, is aimed at presenting to the readers "the history of development of antivirals and their current status." In fact, the authors have achieved more